

CLAIM AMENDMENTS

24. The composition ~~association~~ of claim 23, wherein said liposome consists essentially of neutral lipids.
25. The method ~~composition~~ of claim 10, wherein said antisense polynucleotide is a P-ethoxy polynucleotide.

PENDING CLAIMS

1. A composition comprising a P-ethoxy polynucleotide that hybridizes to a Bcl-2-encoding polynucleotide under intracellular conditions and a neutral lipid associated with said P-ethoxy polynucleotide to form a neutrally-charged polynucleotide/lipid association.
2. The composition of claim 1, wherein said P-ethoxy polynucleotide is an oligonucleotide having a length of between about 8 and about 50 bases.
3. The composition of claim 1, wherein the P-ethoxy polynucleotide is complementary to the translation initiation site of Bcl-2 mRNA.
4. The composition of claim 3, wherein the polynucleotide is an oligonucleotide comprising the sequence CAGCGTGCGCCATCCTTC (SEQ ID NO:1).
5. The composition of claim 1, comprising a liposome formed from the neutral lipid.
6. The composition of claim 5, wherein the P-ethoxy polynucleotide is encapsulated in the liposome.
7. The composition of claim 1, wherein the neutral lipid is a phosphatidylcholine, a phosphatidylglycerol, or a phosphatidylethanolamine.
8. The composition of claim 7, wherein the neutral lipid is dioleoylphosphatidylcholine.
9. A composition comprising an expression construct that encodes a P-ethoxy polynucleotide that hybridizes to a Bcl-2-encoding polynucleotide under intracellular conditions, wherein said P-ethoxy polynucleotide is under the control of a promoter that is capable of expressing in eukaryotic cells, and wherein said construct is associated with a neutral lipid to form a neutrally-charged polynucleotide/lipid association.
10. A method of inhibiting a Bcl-2-associated disease comprising obtaining an antisense polynucleotide that hybridizes to a Bcl-2-encoding polynucleotide under intracellular conditions, mixing the antisense polynucleotide with a neutral lipid to form a polynucleotide/lipid association, and administering said association to a cell, wherein said cell expresses both Bcl-2 and Bax, thereby inhibiting growth of said cell.
11. The method of claim 10, wherein the cell is a cancer cell.

12. The method of claim 11, wherein said cancer cell is a follicular lymphoma cell.
13. The method of claim 10, wherein said P-ethoxy polynucleotide is an oligonucleotide having a length of between about 8 and about 50 bases.
14. The method of claim 10, comprising a liposome formed from the neutral lipid.
15. The method of claim 14, wherein the liposome encapsulates the P-ethoxy polynucleotide.
16. The method of claim 10, wherein said contacting takes place in an animal.
17. The method of claim 16, wherein said animal is a human.
18. The method of claim 17, wherein said association is delivered to said human in a volume of 0.50-10.0 ml per dose.
19. The method of claim 17, wherein said association is delivered to said human in an amount of from about 5 to about 30 mg polynucleotide per m².
20. The method of claim 19, wherein said association is administered three times per week for eight weeks.
22. The composition of claim 5, wherein said liposome consists essentially of neutral lipids.
23. The composition of claim 9, comprising a liposome formed from said neutral lipid.
24. The composition of claim 23, wherein said liposome consists essentially of neutral lipids.
25. The method of claim 10, wherein said antisense polynucleotide is a P-ethoxy polynucleotide.
26. A neutral lipid oligonucleotide association comprising a neutral lipid associated with an antisense oligonucleotide of from about 8 to about 50 bases and complementary to the translation initiation site of Bcl-2 mRNA, wherein said translation initiation site comprises the sequence CAGCGTGCGCCATCCTTC (SEQ ID NO:1).

27. The neutral lipid oligonucleotide association of claim 26, wherein the oligonucleotide has the sequence CAGCGTGCGCCATCCTTC (SEQ ID NO:1).
28. The neutral lipid oligonucleotide association of claim 26, comprising a liposome formed from the lipid.
29. The neutral lipid oligonucleotide association of claim 28, wherein the oligonucleotide is encapsulated in the liposome.
30. The neutral lipid oligonucleotide association of claim 28, wherein said liposome consists essentially of neutral lipids.
31. The neutral lipid oligonucleotide association of claim 26, wherein the lipid is a phosphatidylcholine, a phosphatidylglycerol, or a phosphatidylethanolamine.
32. The neutral lipid oligonucleotide association of claim 31, wherein the lipid is dioleoylphosphatidylcholine.
33. A composition comprising a neutral lipid associated with an expression construct that encodes an oligonucleotide of from about 8 to about 50 bases and complementary to at least 8 bases of the translation initiation site of Bcl-2 mRNA, wherein the construct is under the control of a promoter that is capable of expressing peptides in eukaryotic cells.
34. The composition of claim 33, comprising a liposome formed from the lipid.
35. The composition of claim 34, wherein said liposome consists essentially of neutral lipids.
36. A composition comprising a first antisense polynucleotide that hybridizes to a second, Bcl-2-encoding polynucleotide under intracellular conditions and a primary phosphatide associated with said first polynucleotide, wherein said primary phosphatide is a neutral lipid, and wherein said first polynucleotide comprises at least 8 nucleotides of the sequence CAGCGTGCGCCATCCTTC (SEQ ID NO:1), and wherein said polynucleotide is complementary to the translation initiation site of Bcl-2.
37. The composition of claim 36, comprising a liposome formed from the primary phosphatide.
38. The composition of claim 37, wherein said liposome consists essentially of neutral lipids.

39. A method of inhibiting a Bcl-2-associated disease comprising:
- a) obtaining an antisense polynucleotide that hybridizes to a Bcl-2-encoding polynucleotide under intracellular conditions;
 - b) mixing the antisense polynucleotide with a neutral lipid to form a polynucleotide/lipid association; and
 - c) administering said association to a cell,
- wherein said cell expresses both Bcl-2 and Bax, the growth of said cell is inhibited, and the non-specific toxicity of said association is less than the non-specific toxicity of the antisense polynucleotide with DMPC.
40. The method of claim 39, wherein the cell is a cancer cell.
41. The method of claim 40, wherein said cancer cell is a follicular lymphoma cell.
42. The method of claim 39, wherein said polynucleotide is an oligonucleotide having a length of between about 8 and about 50 bases.
43. The method of claim 39, comprising a liposome formed from said neutral lipid.
44. The method of claim 43, wherein the liposome encapsulates said antisense polynucleotide.
45. The method of claim 39, wherein said contacting takes place in an animal.
46. The method of claim 45, wherein said animal is a human.
47. The method of claim 46, wherein said association is delivered to said human in a volume of 0.50-10.0 ml per dose.
48. The method of claim 46, wherein said association is delivered to said human in an amount of from about 5 to about 30 mg polynucleotide per m².
49. The method of claim 48, wherein said association is administered three times per week for eight weeks.